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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/828,519	04/06/2001	Andrew W. Lo	1869-003A	6245

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EXAMINER

FELTEN, DANIEL S

ART UNIT	PAPER NUMBER
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3624

DATE MAILED: 04/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/828,519

Applicant(s)

LO ET AL.

Examiner

Daniel S Felten

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 30 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 11-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

1. Receipt of the amendment filed January 30, 2004 amending claims 1, and 6-10 and withdrawing claims 11-14 is acknowledged. Claims 1-10 are currently pending in the application and are presented to be examined upon their merits.

Response to Arguments

2. Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Black et al (hereinafter "Black", US 6,012,042) in view of Negishi (US 5,444, 819) and Castiglione, F. "Forecasting price increments using an artificial Neural Network", Advanced Complex Systems (2000).

Re claims 1 and 6-10:

Black discloses a system for processing price data corresponding to a sequence of time for a selected interval (see figs. 3 & 4), the system comprising:

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a database means (12--Technical data storage device, or 16--fundamental data storage device) for storing said price data in system addressable format, wherein said price data is organized for processing into non-linear relationship (see Black, fig. 1, col. 4, ll. 20+);

a data processor (10--Data Conversion Apparatus) responsive to price data stored in the database and capable of generating the non-linear relationship (see Black, fig. 1, col. 4, ll. 45+);

Black also discloses that a user is able to choose from a variety of technical and fundamental analysis techniques and technologies (see Black, col. 10, ll. 57-67).

Black fails to disclose a pattern recognition processor for applying the smoothed non-linear relationship to discern the existence of one or more patterns of price-time data; and generating a results output based on recognition of the pattern.

Negishi discloses a pattern recognition processor 19 (neural network) to discern various patterns, as disclosed in claims 6-10, of price-time data and generates an output based upon the recognition of the pattern (see Negishi, Abstract; col. 16, ll. 8-41), and Castiglione discloses processing price data corresponding to a sequence of time using a pattern recognition (neural network) to apply a smoothed non-linear linear relationship (curve fitting technique—see figs. 1 and 2, “3. Detrending analysis”

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Because Black includes within the invention's process the technical analysis of price data (see Black, figs. 3 and 4, col. 9, ll. 64 to col. 10, ll. 67), it would have been obvious for an artisan of ordinary skill at the time of the invention of Black to integrate/substitute the pattern recognition processor and curve fitting technique, disclosed within Negishi and Castiglione, as alternatives to the Black's price data analysis, because an artisan at the time of the invention would have been motivated to use these techniques, being the latest forecasting technology, to effectively analyze market price data and find new market trends. Moreover to provide such techniques would further allow the user help make the best financial decision and thus is an obvious expedient well within the ordinary skill in the art.

Re claim 2:

wherein real-time price data is inputted from commercial financial data vendors (see Black, col. 1, ll. 46-65).

Re claim 3:

wherein the database includes means for storing price data taken from end of day trading records (see Black, col. 1, ll. 46-65).

Re claim 4:

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wherein data means includes means for storing trading volume and trade size data (see Black, col. 1, ll. 46-65).

Re claim 5:

comprising means for testing prediction characteristics, via convergence criteria and adjusting system parameters in response to the criteria (see Black, col. 1, ll. 46-65).

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S Felten whose telephone number is (703) 305-0724. The examiner can normally be reached on Flex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vincent Millin can be reached on (703) 308-1065. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Daniel S Felten
Examiner
Art Unit 3624

DSF
April 12, 2004



VINCENT MILLIN
SUPERVISOR PATENT EXAMINER
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